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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/531,519

10/28/2005

Tatsuya Hayashi

JCLA16588

9088

7590

08/31/2009

J C Patents
Suite 250
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EXAMINER

JOYCE, WILLIAM C

ART UNIT

PAPER NUMBER

3656

MAIL DATE

DELIVERY MODE

08/31/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/531,519	Applicant(s) HAYASHI ET AL.	
	Examiner William C. Joyce	Art Unit 3656	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

This is the First Office Action in response to the above identified patent application filed on October 28, 2005.

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claim 5 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 5, the limitation "the dynamic pressure generating groove area is formed by pressing a material, and the material has such a structure that a part corresponding to the dynamic pressure generating groove area tapers down to an inner radial side" is not fully understood. First, method limitations, such as pressing, is given little patentable weight because an apparatus claim must define over the prior art in terms of structure and not the method of making the device. Further, the limitation defining "a part corresponding to the dynamic pressure generating groove area tapers down to an inner radial side" appears to be defining an intermediate shape of the thrust member prior to a pressing

Art Unit: 3656

operation, but claim 1 appears to be defining the final shape of the thrust member. It is unclear as to whether applicant intends to claim the final product or some intermediate product. Appropriate correction is required.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1, 2, 4-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hagiwara (JP 2002-195265) in view of Ishikawa (JP 2000-120664).

Hagiwara discloses a hydrodynamic bearing device comprising: an axial member (30) having a first thrust surface; and a second thrust surface opposed to the first thrust surface of the axial member in an axial direction, a dynamic pressure generating groove area being formed in one of the first thrust surface and the second thrust surface, the dynamic pressure generating groove area having a plurality of dynamic pressure generating grooves, an action of dynamic pressure of a fluid generating a pressure in a thrust bearing clearance between the first thrust surface and the second thrust surface to support the axial member in the axial direction in a non-contact manner, wherein the dynamic pressure generating groove area is formed by press working.

Art Unit: 3656

Hagiwara does not appear to disclose the limitation defining the thrust member having a difference in height obtained by subtracting a height of an outer peripheral edge of a surface of the dynamic groove area from that of an inner peripheral edge thereof is between or equal to 0 and 2 μm . The prior art to Ishikawa teaches a thrust member (7) having a difference in height obtained by subtracting a height of an outer peripheral edge of a surface of the dynamic groove area from that of an inner peripheral edge thereof is between or equal to 0 and 2 μm . It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the thrust member of Hagiwara with a thrust surface having the claimed height difference, as taught by Ishikawa, motivation being to provide stable rotation of the bearing arrangement.

Hagiwara also shows the axial member is provided with a flange part, and the first thrust surface is provided in an end face of the flange part opposed to the second thrust surface, at least a ridge of the dynamic pressure generating groove area is subjected to finish processing, the dynamic pressure generating groove area is formed by pressing a material, and the material has such a structure that a part corresponding to the dynamic pressure generating groove area tapers down to an inner radial side.

6. Claims 1-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hagiwara (JP 2002-195265) in view Mori et al. (USPub 2002/0025089).

Art Unit: 3656

Hagiwara discloses a hydrodynamic bearing device comprising: an axial member (30) having a first thrust surface; and a second thrust surface opposed to the first thrust surface of the axial member in an axial direction, a dynamic pressure generating groove area being formed in one of the first thrust surface and the second thrust surface, the dynamic pressure generating groove area having a plurality of dynamic pressure generating grooves, an action of dynamic pressure of a fluid generating a pressure in a thrust bearing clearance between the first thrust surface and the second thrust surface to support the axial member in the axial direction in a non-contact manner, wherein the dynamic pressure generating groove area is formed by press working.

Hagiwara does not appear to disclose the limitation defining the thrust member having a difference in height obtained by subtracting a height of an outer peripheral edge of a surface of the dynamic groove area from that of an inner peripheral edge thereof is between or equal to 0 and 2 μm . The prior art to Mori et al. teaches a thrust member (7) having a flatness of .0005 mm or less (section 0027). Mori et al. clearly identifies the importance of forming the thrust member with a very flat thrust surface. Ideally, it is understood from Mori et al. that a thrust surface having a flatness of 0 is ideal. Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the thrust member of Hagiwara with a thrust surface having a flatness of

Art Unit: 3656

0, as taught by Ishikawa, motivation being to provide stable rotation of the bearing arrangement.

7. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hagiwara (JP 2002-195265) and Ishikawa (JP 2000-120664), as applied to claim 1 above, in further view of Mori et al. (USPUB 2002/0025089).

Mori et al. teaches forming a thrust surface with a roughness Ra of .04 μm or less (claim 17). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the thrust surface of Hagiwara with a roughness Ra of .04 μm or less, as taught by Mori et al., motivation being to provide smooth rotation and minimize wear of the bearing arrangement.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to William C. Joyce whose telephone number is (571) 272-7107. The examiner can normally be reached on Monday - Thursday 7:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Ridley can be reached on (571) 272-6917. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 3656

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/William C. Joyce/
Primary Examiner, Art Unit 3656